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- **Dr Grace Bochenek**

- Director for US ARMY Tank Automotive Research Development Engineering Center (TARDEC)

***The Technology – Logistics Paradigm:
Fixing Today's Problems, Preventing Tomorrow's***

- **COL Kirk Benson for Dr Wm. Forrest Crain**

- Deputy Director for the US Army Material Systems Analysis (AMSAA).

Data-Driven Analysis for Logistics

- **Dr Vic Ramdass**

- Director for the Logistics Innovation Agency (LIA)

***Addressing Logistics Up Front:
More Efficiently Develop, Buy, Own, and Operate the TWV Fleet***



- TARDEC Mission
- The Logistics-Technology Paradigm – Two Facets
- Reducing Current Logistics Burdens with Technology
- Reducing Unintended Consequences in Technology Development
- Closing

- Provide Life-Cycle engineering support and for all DOD ground combat and combat support vehicle systems.
- Develop and integrate technology solutions to improve Current Force effectiveness and provide capabilities for the Future Force.



Life-Cycle Engineering Requires Logistics to be Addressed from the Start – *Concept through Disposal*

The Two Facets of Future Capabilities through the Logistics Lens



Look at
**Innovative ways to
Reduce Logistics Burdens**

Unburden the
Warfighter

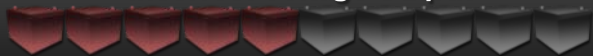
Look to
**Design Good Logistics In
From Start**

Reduce
Unintended
Consequences

**AGM Battery Failures
2002-2008**

~250,000

Incorrect Voltage Output



50%

Damaged - Transport Issues



30%

Improper Electrical Performance



20%

Approximately 80% of incorrect voltage failures were serviceable

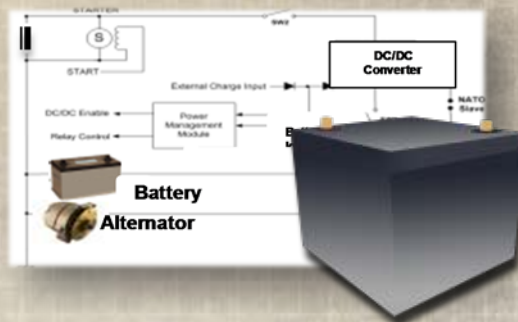
**Improved charging techniques
can lead to 2X life improvement**



Field Battery Maintenance & Training



Improved Charging



Battery Management



- Annual Purchase of Vehicle Batteries: 700,000
- **AGM = Advanced Glass Mat.: "maintenance free"

2007 Kuwait / OIF / OEF Fuel to FOB (M Gal)

431



Number Convoys Resulting in 1 Casualty

24

Number Convoys Per Day

2.5

Days Between Casualties

10

IMPACTS
of Saving 1% Fuel

\$5-82B

Fewer Dollars Spent on Fuel

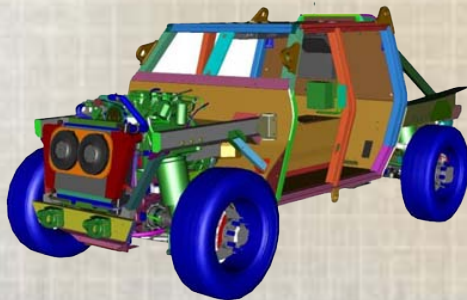
6,444

Fewer Soldier Trips

37

Fewer Casualties

**Modeling and Simulation:
Optimize the System**



Research and Testing



**Demonstrate Systems
and Technologies**



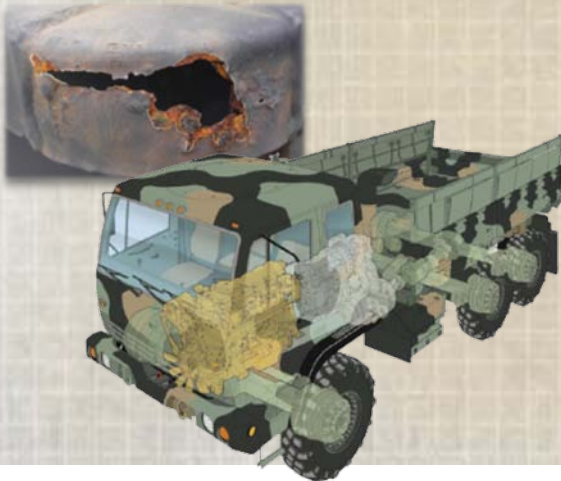
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



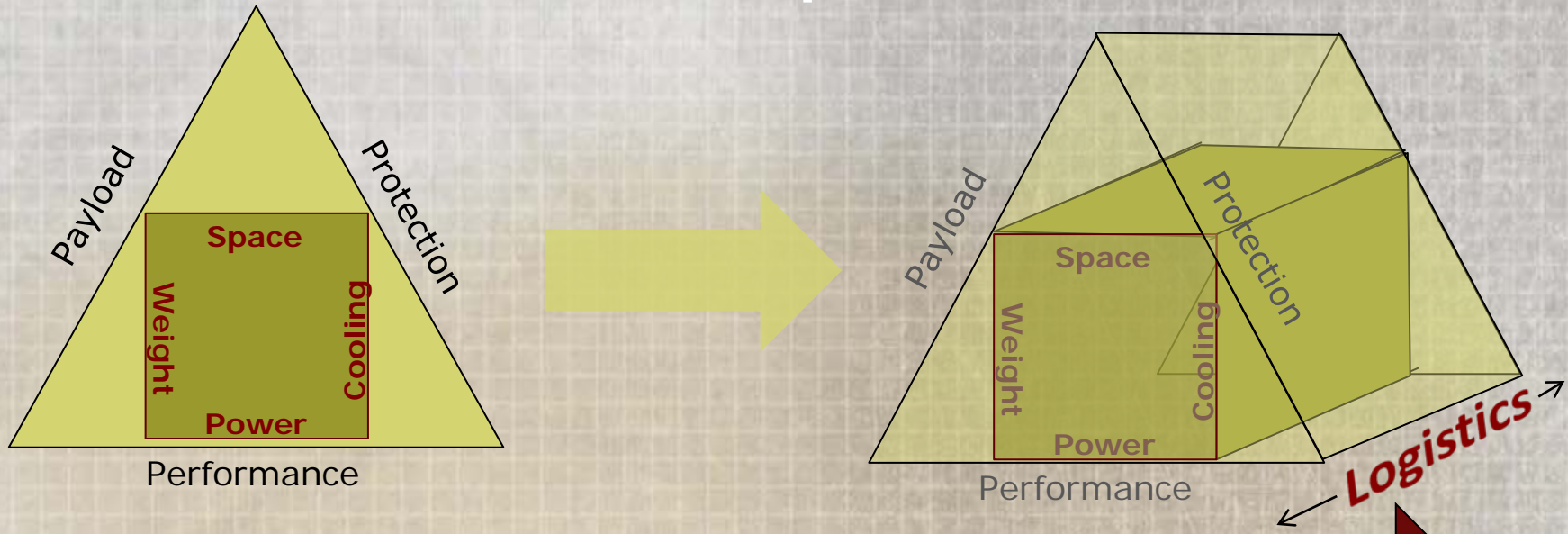
**Condition Based Maintenance
- Robust Solutions**

**Reduce Complexity /
Improve Commonality**

**Develop Hardware to Improve
Training and Avoid Issues**



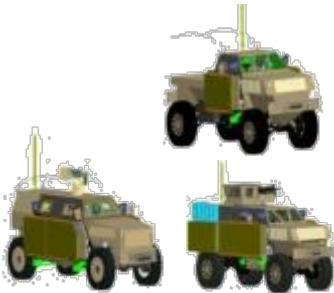
TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Moving from SWaP-C to SWaP-C+L

LOGISTICS

Commonality



Durability



Transportability



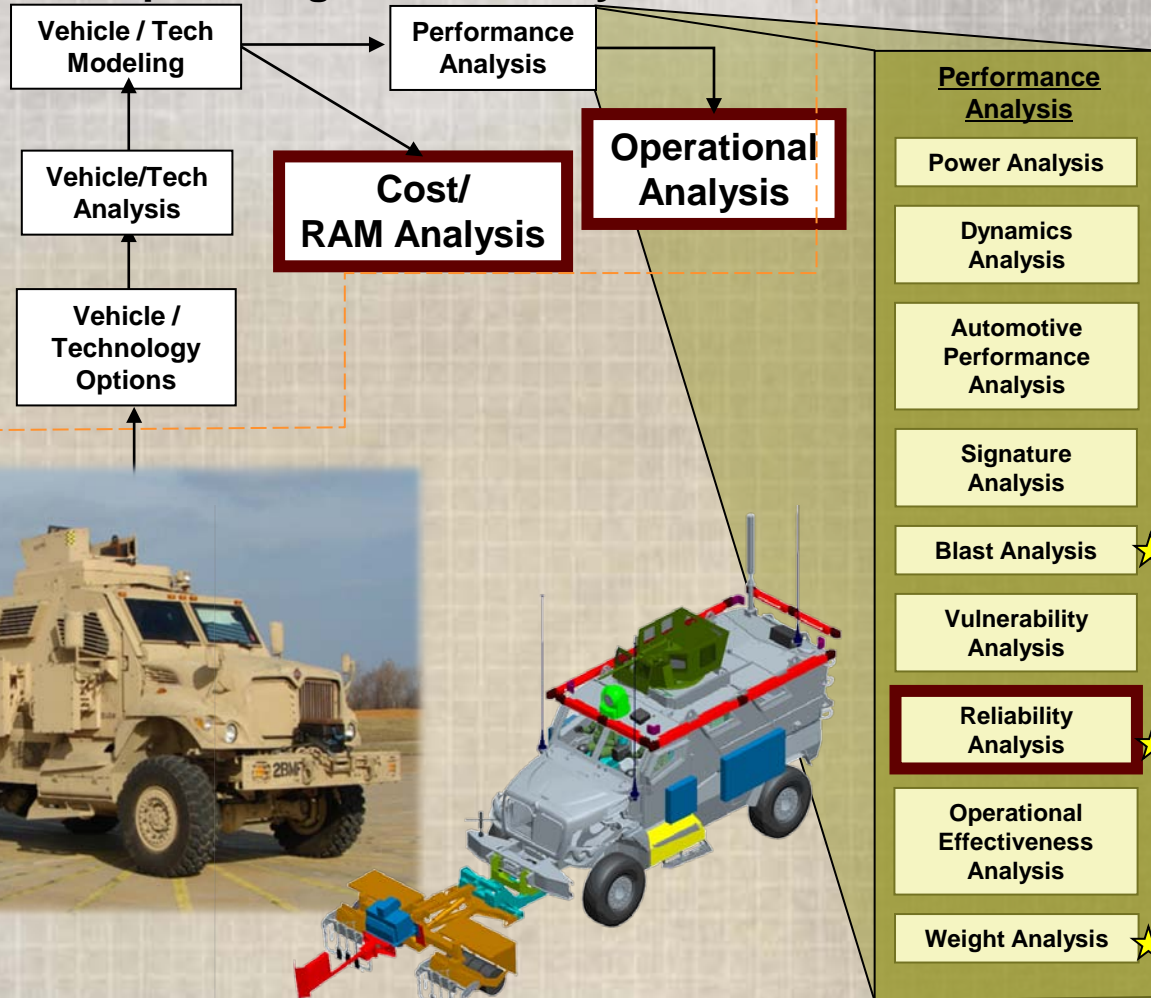
Supportability/ Maintainability



Producibility



Concepts, Integration & Analysis



- Reduce Time / Cost to Field
- Reduce Operations & Maintenance Costs (RAM)
- Improve Transportability
- Reduce Inventory
- Save Lives
- Reduce Injuries
- Reduce Failures
- Improve Fuel Economy
- Reduce Weight

Enforce Design Principles to TARGET Reliability
Good Systems Engineering



It's All About the Warfighter



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

The image is a composite. The background is a faded, high-contrast photograph of a soldier wearing a helmet and sunglasses, looking directly at the camera. Overlaid on this is a red rectangular box with a black border, containing white text. In the foreground, there is a photograph of a long line of military tankers, specifically Kenworth trucks with large cylindrical tanks, moving along a road in a desert environment.

This chart goes after the last speaker